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PATENT

Attorney Docket No.: A-64789-3/RFT/RMS/RMK



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

MEADE, T.

Serial No. 09/841,809

Filed: April 24, 2001

For: DETECTION OF ANALYTES
USING REORGANIZATION
ENERGY

Examiner: NOT YET ASSIGNED

Group Art Unit: NOT YET ASSIGNED

CERTIFICATE OF MAILING

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INFORMATION DISCLOSURE STATEMENT AND
STATEMENT OF RELATEDNESS

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Assistant Commissioner
for Patents
Washington, DC 20231

Sir:

In satisfaction of the duty of disclosure under 37 C.F.R. § 1.56, and in accordance with the provisions of 37 C.F.R. §§ 1.97 and 1.98, Applicants wish to draw the attention of the U.S. Patent and Trademark Office to the reference cited on the accompanying form PTO-1449.

Since copies of documents 1-207 were provided either by the Applicant or the Examiner in the following related U.S. Applications; Serial No. 09/417,988, filed October 13, 1999; U.S.S.N. 09/096,504, filed June 12, 1998, now Patent Number 6,013,170; and U.S.S.N. 08/873,977, filed June 12, 1997, now Patent Number 6,013,459, upon which the instant application relies for its priority date, in accordance with 37 C.F.R. § 1.98(d), no copies of these references are enclosed. Copies of documents 205-229 are enclosed herewith.

Serial No.: 09/841,809
Filed: April 24, 2001

With respect to patent applications, the applicants point out their duty under M.P.E.P. §2001.06(b) to disclose relevant patent applications of which they are aware. To this end, the applicants draw the Examiner's attention to the following patent applications;

1. United States Serial Number 08/743,798, filed November 5, 1996; U.S.S.N.

08/873,978, filed June 12, 1997; U.S.S.N. 08/899,510, July 24, 1997; U.S.S.N. 08/911,085, filed August 14, 1997, now Patent Number 6,090,933; U.S.S.N. 09/557,577, filed April 21, 2000; and U.S.S.N. 09/577,429, filed May 22, 2000.

2. U.S.S.N. 08/873,977, filed June 12, 1997, now Patent Number 6,013,459;

09/096,504, filed June 12, 1998, now Patent Number 6,013,170;10; U.S.S.N. 09/417,988, filed October 13, 1999.

3. U.S.S.N. 08/166,036, filed December 10, 1993, now Patent Number 5,591,578;

U.S.S.N. 08/475,051, filed June 7, 1995, now Patent Number 5,824,473; U.S.S.N.

08/660,534, filed June 7, 1995, now Patent Number 5,770,369; U.S.S.N. 08/659,987, filed June 7, 1996, now abandoned; U.S.S.N. 08/709,265, filed September 6, 1996, now Patent

Number 5,705,348; U.S.S.N. 08/709,263, filed September 6, 1996, now Patent Number 5,952,172;

5,780,235; U.S.S.N. 08/873,598, filed June 12, 1997, now Patent Number 6,087,100; U.S.S.N.

U.S.S.N. 08/946,679, filed October 8, 1997, now Patent Number 6,071,699; U.S.S.N. 09/306,749, filed 09/100,507, filed June 19, 1998, now Patent Number 6,071,699; U.S.S.N. 09/306,768, filed May 7,

May 7, 1999; U.S.S.N. 09/306,737, filed May 7, 1999; U.S.S.N. 09/306,768, filed May 7, 1999; U.S.S.N. 09/454,498, filed December 6, 1999; U.S.S.N. 09/459,751, filed December 10,

1999; U.S.S.N. 09/459,191, filed December 10, 1999, now Patent Number 6,180,352; U.S.S.N. 09/459,191, filed December 10, 1999, now Patent Number 6,180,352;

Serial No.: 09/841,809
Filed: April 24, 2001

U.S.S.N. 09/458,187, filed December 8, 1999;
U.S.S.N. 09/454,497, filed December 6, 1999; U.S.S.N. 09/454,497, filed December 6, 1999;

U.S.S.N. 09/602,618, filed June 22, 2000.

U.S.S.N. 09/545,227, filed April 7, 2000; and U.S.S.N. 09/545,227, filed April 7, 2000; and U.S.S.N. 09/602,618, filed June 22, 2000.

4. U.S.S.N. 08/911,589, filed August 14, 1997; and U.S.S.N. 09/660,374, filed September 12, 2000.

5. U.S.S.N. 09/096,593, filed June 12, 1998.

None of the foregoing references are believed to disclose the invention as claimed.

Nothing herein shall constitute an admission concerning the contents of any of the cited references, nor shall the inclusion of a reference herein be considered an admission that the reference constitutes prior art against the invention claimed in the above-identified application. Submission of the present document shall not be construed as an admission that a search has been made or that better art does not exist.

This Information Disclosure Statement is being filed within three months of the filing date of a national application, within three months of the date of entry of a national stage, or before the mailing date of a first Office Action on the merits. 37 C.F.R. § 1.97(b), and therefore no fee is required. The Commissioner is authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 06-1300 (Our Order No.

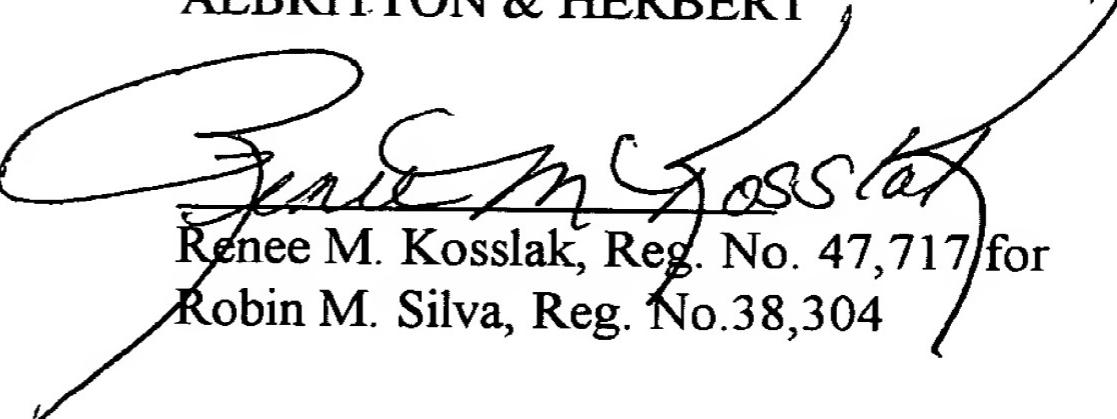
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Respectfully submitted,

FLEHR, HOHBACH, TEST,
ALBRITTON & HERBERT

Dated: 7/12/01


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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

1 of 13

Complete if Known

Application Number	09/841,809
Filing Date	April 24, 2001
First Named Inventor	Meade, T.
Group Art Unit	Not Yet Assigned
Examiner Name	Not Yet Assigned
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U.S. PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code ² (if known)			
1	4,707,352			Stavrianopoulos	11/1987	
2	4,707,440			Stavrianopoulos	11/1987	
3	4,711,955			Ward et al.	12/1987	
4	4,755,458			Rabbani et al.	7/1988	
5	4,840,893			Hill et al.	6/1989	
6	4,849,513			Smith et al.	7/1989	
7	4,868,103			Stavrianopoulos et al.	9/1989	
8	4,894,325			Englehardt et al.	1/1990	
9	4,943,523			Stavrianopoulos	7/1990	
10	4,952,685			Stavrianopoulos	8/1990	
11	4,994,373			Stavrianopoulos	2/1991	
12	5,002,885			Stavrianopoulos	3/1991	
13	5,013,831			Stavrianopoulos	5/1991	
14	5,082,830			Brakel et al.	1/1992	
15	5,175,269			Stavrianopoulos	12/1992	
16	5,241,060			Englehardt et al.	8/1993	
17	5,278,043			Bannwarth et al.	1/1995	
18	5,312,527			Mikkelsen et al.	5/1994	

FOREIGN PATENT DOCUMENTS						
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		Office ³	Number ⁴			
19	EP	0 234 938	A2	Cranfield Inst. of Tech.	2/1987	
20	EP	0 229 943	B1	Molecular Biosystems Inc.	7/1987	
21	EP	0 599 337	A2	Canon Kabushiki Kaisha	1/1994	
22	EP	0 063 879	A2	Yale University	11/1982	
23	EP	0 515 615		Boehringer Nannheim	9/1996	
24	CA	2 090 904	A1	F. Hoffman-La Roche	9/1993	
25	JP	238,166	A	Mitsubishi Corp.	1988	abstract
26	JP	6-41183	A2	Mitsubishi Corp.	1994	

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27	5,328,824			Ward et al.	7/1994	
28	5,403,451			Riviello et al.	4/1995	
29	5,449,767			Ward et al.	9/1995	
30	5,472,881			Beebe et al.	12/1995	
31	5,476,928			Ward et al.	12/1995	
32	5,552,270			Khrapko et al.	9/1996	
33	5,565,552			Magda et al.	10/1996	
34	5,573,906			Bannwarth et al.	11/1996	
35	5,591,578			Meade et al.	1/1997	
36	5,595,908			Fawcett et al.	1/1997	
37	5,601,982			Sargent et al.	2/1997	
38	5,620,850			Bamdad et al.	4/1997	
39	5,705,348			Meade et al.	1/1998	
40	5,741,700			Ershov et al.	4/1998	
41	5756,050			Ershov et al.	5/1998	
42	5,770,369			Meade et al.	6/1998	
43	5,770,721			Ershov et al.	6/1998	
44	5,776,672			Hashimoto et al.	7/1998	

FOREIGN PATENT DOCUMENTS

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		Office ³	Number ⁴	Kind Code ² (if known)				
45	WO	90/05732		A1	Columbia Univ.	5/1990		
46	WO	92/10757		A1	Boehringer Mannheim	6/1992		
47	WO	93/22678		A2	Mass. Inst. of Technology	11/1993		
48	WO	93/10267		A1	IGEN, Inc.	5/1993		
49	WO	94/22889		A1	Cis Bio International	10/1994		
50	WO	95/15971		A2	Calif. Inst. of Technology	6/1995		
51	WO	96/40712		A1	Calif. Inst. of Technology	12/1996		

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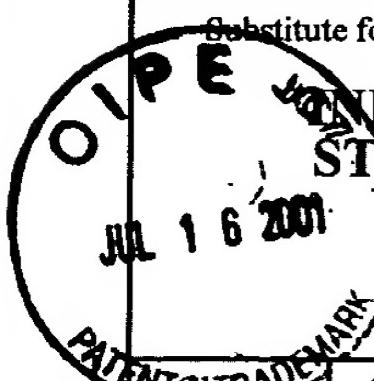
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Application Number	09/841,809
Filing Date	April 24, 2001
First Named Inventor	Meade, T.
Group Art Unit	Not Yet Assigned
Examiner Name	Not Yet Assigned
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52	5,780,234			Meade et al.	7/1998	
53	5,824,473			Meade et al.	10/1998	
54	5,851,772			Mirzabekov et al.	12/1998	
55	5,952,172			Meade et al.	9/1999	
56	5,443,701			Willner et al.	08/1985	
57	5,795,453			Gilmartin et al.	08/1998	
58	4,704,193			Bowers et al.	11/1987	

FOREIGN PATENT DOCUMENTS

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59	WO	97/01646	A2		Univ. of N. Carolina	1/1997		
60	WO	97/44651	A1		AU Membrane and	11/1997		
61	WO	97/27329	A1		Univ. of Chicago	7/1997		
62	WO	98/20162	A2		Clinical Micro Systems	5/1998		
63	WO	98/27229	A1		Univ. of Chicago	6/1998		
64	WO	98/28444	A2		Univ. of Chicago	7/1998		
65	WO	98/35232	A2		Univ. of N. Carolina	8/1998		
66	WO	99/67425	A2		Clinical Micro Systems	12/1999		
67	WO	99/14596	A1		AB Sangtec Medical	3/1999		
68	EP	0 339 821				11/1989		
69	EP	0 142 301				05/1985		
70	WO	97/27473				07/1997		
71	WO	93/25898				12/1993		

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Sheet 4 of 13

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Application Number	09/841,809
Filing Date	April 24, 2001
First Named Inventor	Meade, T.
Group Art Unit	Not Yet Assigned
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Attorney Docket Number	A-64789-3/RFT/RMS/RMK

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	72	Aizawa et al., "Integrated Molecular Systems for Biosensors," Sensors and Acuators B, B@\$ (Nos 1/3) Part 1:1-5 (March 1995).	
	73	Albers et al., "Design of Novel Molecular Wires for Realizing Long-Distance Electron Transfer," Biochemistry and Bioenergetics, 42:25-33 (1997).	
	74	Alleman, K.S., et al., "Electrochemical Rectification at a Monolayer-Modified Electrode," <i>J. Phys. Chem.</i> , 100:17050-17058 (1996).	
	75	Arkin et al. "Evidence for Photoelectron Transfer Through DNA Intercalation," <i>J. Inorganic Biochem. Abstracts</i> , 6th International Conference on Bioinorganic Chemistry, 51(1) & (2):526 (1993).	
	76	Barisci et al., "Conducting Polymer Sensors," <i>TRIP</i> , 4(9):307-311 (1996).	
	77	Baum, R. M., "Views on Biological, Long-Range Electron Transfer Stir Debate," <i>C&EN</i> , pp 20-23 (1993).	
	78	Bechtold, R., et al., "Ruthenium-Modified Horse Heart Cytochrome c: Effect of pH and Ligation on the Rate of Intramolecular Electron Transfer between Ruthenium(II) and Heme(III)," <i>J. Phys. Chem.</i> , 90(16):3800-3804 (1986).	
	79	Bidan, "Electroconducting conjugated polymers: new sensitive matrices to build up chemical or electrochemical sensors. A Review," <i>Sensors and Actuators</i> , B6:45-56 (1992).	
	80	Biotechnology and Genetics: Genetic Screening Integrated Circuit," <i>The Economist</i> (February 25-March 3, 1995).	
	81	Blonder et al., "Three-dimensional Redox-Active layered Composites of Au-Au, Ag-Ag and Au-Ag Colloids," <i>Chem. Commun.</i> 1393-1394 (1998).	
	82	Boguslavsky, L. et al., "Applications of redox polymers in biosensors," <i>Solid State Ionics</i> , 60:189-197 (1993).	
	83	Bowler, B. E., et al., "Long-Range Electron Transfer in Donor (Spacer) Acceptor Molecules and Proteins," <i>Progress in Inorganic Chemistry: Bioinorganic Chemistry</i> , 38:259-322 (1990).	
	84	Brun, A. M., et al., "Photochemistry of Intercalated Quaternary Diazaaromatic Salts," <i>J. Am. Chem. Soc.</i> , 113:8153-8159 (1991).	
	85	Bumm, et al., "Are Single Molecular Wires Conducting?," <i>Science</i> 271:1705-1707 (1996).	
	86	Cantor, C.R. et al., "Report on the Sequencing by Hybridization Workshop," <i>Genomics</i> , 13:1378-1383 (1992).	
	87	Carr et al., "Novel Electrochemical Sensors for Neutral Molecules," <i>Chem. Commun.</i> , 1649-1650 (1997).	
	88	Carter et al., "Voltammetric Studies of the Interaction of Metal Chelates with DNA. 2. Tris-Chelated Complexes of Cobalt(III) and Iron(II) with 10-Phenanthroline and 2,2'-Bipyridine," <i>J. Am. Chem. Soc.</i> , 11:8901-8911 (1989).	

Examiner Signature		Date Considered	
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16 JULY 2001

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Sheet

5

of 13

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OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	89	Chang, I-Jy, et al., "High-Driving-Force Electron Transfer in Metalloproteins: Intramolecular Oxidation of Ferrocyanochrome c by Ru(2,2'-bpy) ₂ (im)(His-33) ³⁺ ," <i>J. Am. Chem. Soc.</i> , 113:7056-7057 (1991).	
	90	Chidsey, et al., "Coadsorption of Ferrocene-Terminated and Unsubstituted Alkanethiols on Gold" <i>Electroactive Self-Assembled Monolayers</i> , <i>J. Am. Chem. Soc.</i> , 112:4301-4306 (1990).	
	91	Chidsey, C.E.D., et al., "Free Energy and Temperature Dependence of Electron Transfer at the Metal Electrolyte Interface," <i>Science</i> , 251:919-922 (1991).	
	92	Chrisey, et al., "Covalent attachment of synthetic DNA to self-assembled monolayer films," <i>Nucleic Acids Research</i> , 24(15):3031-3039 (1996).	
	93	Clery, "DNA Goes Electric," <i>Science</i> , 267:1270 (1995).	
	94	<i>Commerce Business Daily Issue</i> of September 26, 1996 PSA#1688.	
	95	Davis, L. M., et al., "Electron Donor Properties of the Antitumour Drug Amsacrine as Studied by Fluorescence Quenching of DNA-Bound	
	96	Davis, L. M., et al., "Elements of biosensor construction," <i>Enzyme Microb. Technol.</i> 17:1030-1035 (1995).	
	97	Degani et al., "Direct Electrical Communication between Chemically Modified Enzymes and Metal Electrodes. 2. Methods for Bonding Electron-Transfer Relays to Glucose Oxidase and D-Amino-Acid Oxidase," <i>J. Am. Chem. Soc.</i> 110:2615-2620 (1988).	
	98	Degani, Y., et al., "Electrical Communication between Redox Centers of Glucose Oxidase and Electrodes via Electrostatically and Covalently Bound Redox Polymers," <i>J. Am. Chem. Soc.</i> , 111:2357-2358 (1989).	
	99	Degani, Y., et al., "Direct Electrical Communication between Chemically Modified Enzymes and Metal Electrodes. 1. Electron Transfer from Glucose Oxidase to Metal Electrodes via Electron Relays, Bound Covalently to the Enzyme," <i>J. Phys. Chem.</i> , 91(6):1285-1288 (1987).	
	100	Deinhammer, R.S., et al., "Electronchemical Oxidation of Amine-containing compounds: A Route to the Surface Modification of glassy carbon electrodes," <i>Langmuir</i> , 10:1306-1313 (1994).	
	101	Dreyer, G. B., et al., "Sequence-specific cleavage of single-stranded DNA: Oligodeoxynucleotide-EDTA·Fe(II)," <i>Proc. Natl. Acad. Sci. USA</i> , 82:968-972 (1985).	
	102	Drobyshev, A. et al., "Sequence Analysis by Hybridization with Oligonucleotide Microchip: Identification of β-thalassemia Mutations," <i>Gene</i> , 188:45-52 (1997).	
	103	Dubiley, S. et al., "Fractionation, phosphorylation and Ligation on Oligonucleotide Microchips to Enhance Sequencing by Hybridization," <i>Nucleic Acids Research</i> , 25(12):2259-2265 (1997).	
	104	Durham, B., et al., "Electron-Transfer Kinetics of Singly Labeled Ruthenium(II) Polypyridine Cytochrome c Derivatives," <i>Advances in Chemistry Series</i> , 226:181-193 (1990).	

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		Filing Date	April 24, 2001
		First Named Inventor	Meade, T.
		Group Art Unit	Not Yet Assigned
		Examiner Name	Not Yet Assigned
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	105	Durham, B., et al., "Photoinduced Electron-Transfer Kinetics of Singly Labeled Ruthenium Bis(bipyridin) Dicarboxybipyridine Cytochrome c Derivatives," <i>Biochemistry</i> , 28:8659-8665 (1989).	
	106	Elghanian et al., "Selective Colorimetric Detection of Polynucleotides Based on the Distance-Dependent Optical Properties of Gold Nanoparticles," <i>Science</i> , 277:1078-1081 (1997).	
	107	Elias, H., et al., "Electron-Transfer Kinetics of Zn-Substituted Cytochrome c and Its Ru(NH ₃) ₅ (Histidine-33) Derivative," <i>J. Am. Chem. Soc.</i> , 110:429-434 (1988).	
	108	Farver, O., et al., "Long-range intramolecular electron transfer in azurins," <i>Proc. Natl. Acad. Sci. USA</i> , 86:6968-6972 (1989).	
	109	Fotin, A. et al., "Parallel Thermodynamic Analysis of Duplexes on Oligodeoxyribonucleotide Microchips," <i>Nucleic Acids Research</i> , 216(6):1515-1521 (1998).	
	110	Fox, M. A., et al., "Light-Harvesting Polymer Systems," <i>C&EN</i> , pages 38-48 (March 15, 1993).	
	111	Fox, L. S., et al., "Gaussian Free-Energy Dependence of Electron-Transfer Rates in Iridium Complexes," <i>Science</i> , 247:1069-1071 (1990).	
	112	Francois, J-C., et al., "Periodic Cleavage of Poly(dA) by Oligothymidylates Covalently Linked to the 1,10-Phenanthroline-Copper Complex," <i>Biochemistry</i> , 27:2272-2276 (1988).	
	113	Friedman, A. E., et al., "Molecular 'Light Switch' for DNA: Ru(bpy) ₂ (dppz) ²⁺ ," <i>J. Am. Chem. Soc.</i> , 112:4960-4962 (1990).	
	114	Fromherz, P., et al., "Photoinduced Electron Transfer in DNA Matrix from Intercalated Ethidium to Condensed Methylviologen," <i>J. Am. Chem. Soc.</i> , 108:5361-5362 (1986).	
	115	Gardner, et al., "Application of conducting polymer technology in microsystems," <i>Sensors and Actuators</i> , A51:57-66 (1995).	
	116	Gregg, B. A., et al., "Redox Polymer Films Containing Enzymes. 1. A Redox-Conducting Epoxy Cement: Synthesis, Characterization, and Electrocatalytic Oxidation of Hydroquinone," <i>J. Phys. Chem.</i> , 95:5970-5975 (1991).	
	117	Gregg, B. A., et al., "Cross-linked redox gels containing glucose oxidase for amperometric biosensor applications," <i>Anal. Chem.</i> , 62:258-263 (1990).	
	118	Guschin, D. et al., "Manual Manufacturing of Oligonucleotide, DNA, and Protein Microchips," <i>Analytical Biochemistry</i> , 250:203-211 (1997).	
	119	Guschin, D. et al., "Oligonucleotide Microchips as Genosensors for Determinative and Environmental Studies in Microbiology," 63(6):2397-2402 (1997).	
	120	Hashimoto, et al., "Sequence-Specific Gene Detection with a Gold Electrode Modified with DNA Probes and an Electrochemically Active Dye," <i>Anal. Chem.</i> 66:3830-3833 (1994).	
	121	Hegner, et al., "Immobilizing DNA on gold via thiol modification for atomic force microscopy imaging in buffer solutions," <i>FEBS</i> 336(3):452-456 (1993).	

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	122	Heller, A., "Electrical Wiring of Redox Enzymes," <i>Acc. Chem. Res.</i> , 23:128-134 (1990).	
	123	Heller et al., "Fluorescent Energy Transfer Oligonucleotide Probes," <i>Fed. Proc.</i> 46(6):1968 (1987) Abstract No. 248.	
	124	Heller, A., et al., "Amperometric biosensors based on three-dimensional hydrogel-forming epoxy networks," <i>Sensors and Actuators</i> , 13-14:180-183 (1993).	
	125	Ho "DNA-Mediated Electron Transfer and Application to 'Biochip' Development," <i>Abstract. Office of Naval Research</i> (Report Date: July 25, 1991) 1-4, RR04106.	
	126	Hobbs et al., "Polynucleotides Containing 2'-Amino-2'deoxyribose and 2'-Azido-2'-deoxyribose," <i>Biochemistry</i> , 12(25):5138-5145 (1973).	
	127	Hsung, et al., "Thiophenol Protecting Groups for the Palladium-Catalyzed Heck Reaction: Efficient Syntheses of Conjugated Arylthiols," <i>Tetrahedron Letters</i> . 36(26):4525-4528 (1995).	
	128	Hsung, et al., "Synthesis and Characterization of Unsymmetric Ferrocene-Terminated Phenylethynyl Oligomers," <i>Organometallics</i> , 14:4808-4815 (1995).	
	129	Jenkins et al., "A Sequence-Specific Molecular Light Switch: Tebhering of an Oligonucleotide to a Dipyridophenazine Complex of Ruthenium (II)," <i>J. Am. Chem. Soc.</i> , 114:8736-8738 (1992).	
	130	Johnston et al., "Trans-Dioxorhenium(V)-Mediated Electrocatalytic Oxidation of DNA at Indium Tin-Oxide Electrodes: Voltammetric Detection of DNA Cleavage in Solution," <i>Inorg. Chem.</i> , 33:6388-6390 (1994).	
	131	Kamat et al., <i>J. Phys. chem.</i> , 93(4):1405-1409 (1989). Abstract	
	132	Katritzky, et al., "Pyridylethylation - A New Protection Method for Active Hydrogen Compounds," <i>Tetrahedron Letters</i> , 25(12):1223-1226 (1984).	
	133	Kelley, S.O. and J.K. Barton, "Electrochemistry of Methylene Blue Bound to a DNA-Modified Electrode," <i>Bioconjugate Chem.</i> , 8:31-37 (1997).	
	134	Kojima et al., "A DNA Probe of Ruthenium Bipyridine Complex Using Photocatalytic Activity," <i>Chemistry Letter</i> , pp 1889-1982 (1989).	
	135	Korri-Youssoufi et al., "Toward Bioelectronics: Specific DNA Recognition Based on an Oligonucleotide-Functionalized Polypyrrole," <i>J. Am. Chem. Soc.</i> , 119(31):7388-7389 (1997).	
	136	Laviron, E., "A.C. Polarography and Faradaic Impedance of Strongly Adsorbed Electroactive Species. Part I: Theoretical and Experimental Study of a Quasi-Reversible Reaction in the Case of a Langmuir Isotherm," <i>J. Electroanal. Chem.</i> , 97:135-149 (1979).	
	137	Laviron, E., "A.C. Polarography and Faradaic Impedance of Strongly Adsorbed Electroactive Species. Part III: Theoretical Complex Plane Analysis for a Surface Redox Reaction," <i>J. Electroanal. Chem.</i> , 105:35-42 (1979).	
	138	Lee, et al., "Direct Measurement of the Forces Between Complementary Strands of DNA," <i>Science</i> , 266:771-773 (1994).	

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8		of	13	First Named Inventor	Meade, T.
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	139	Lenhard, J.R., et al., "Part VII Covalent Bonding of a Reversible- Electrode Reactant to Pt Electrodes Using an organosilane Reagent" <i>J. Electronal. Chem.</i> , 78:195-201 (1977).	
	140	Lincoln et al., "Shorting Circuiting the Molecular Wire," <i>J. Am. Chem. Soc.</i> , 119(6):1454-1455 (1997).	
	141	Lipkin "Identifying DNA by the Speed of Electrons," <i>Science News</i> , 147(8):117 (1995).	
	142	Livshits, M. et al., "Theoretical Analysis of the Kinetics of DNA Hybridization with Gel-Immobilized Oligonucleotides," <i>Biophysical Journal</i> , 71:2795-2801 (1996).	
	143	Maskos, et al., "Oligonucleotide hybridisations on glass supports: a novel linker for oligonucleotide synthesis and hybridisation properties of oligonucleotides synthesised <i>in situ</i> ," <i>Nucleic Acids Research</i> , 20(7):1679-1684 (1992).	
	144	McGee, et al., "2'-Amino-2'-deoxyuridine via an Intramolecular Cyclization of a Trichloroacetimidate," <i>J. Org. Chem.</i> , 61:781-785 (1996).	
	145	Meade, T. J., et al., "Electron Transfer through DNA: Site-Specific Modification of Duplex DNA with Ruthenium Donors and Acceptors," <i>Angew Chem. Int. Ed. Engl.</i> , 34:352-354 (1995).	
	146	Meade, T. J., "Driving-Force Effects on the Rate of Long-Range Electron Transfer in Ruthenium-Modified Cytochrome c," <i>J. Am. Chem. Soc.</i> , 111:4353-4356 (1989).	
	147	Mestel, "Electron Highway' Points to Identity of DNA," <i>New Scientist</i> , p. 21 (1995).	
	148	Millan, K.M. and Mikkelsen, S.R., "Sequence-Selective Biosensor for DNA Based on Electroactive Hybridization Indicators," <i>Anal. Chem.</i> , 65:2317-2323 (1993).	
	149	Millan, K.M., et al., "Covalent Immobilization of DNA onto Glassy Carbon Electrodes," <i>Electroanalysis</i> , 4(10):929-932 (1992).	
	150	Millan, et al., "Voltammetric DNA Biosensor for Cystic Fibrosis Based on a Modified Carbon Paste Electrode," <i>Anal. Chem.</i> , 66:2943-2948 (1994).	
	151	Miller, C., "Absorbed ω-Hydroxy Thiol Monolayers on Gold Electrodes: Evidence for Electron Tunneling to Redox Species in Solution," <i>J. Phys. Chem.</i> , 95:877-886 (1991).	
	152	Mirkin et al., "A DNA-based Method for Ratioally Assembling Nonoparticles into Macroscopic Materials," <i>Nature</i> , 382:607-609 (1996).	
	153	Mirzabekov, A. et al., "Dna Sequencing by Hybridization - a Megasequencing Method and a Diagnostic Tool," <i>Tibtech</i> , 12:27-32 (1994).	
	154	Mitchell et al., "Programmed Assembly of DNA Functionalized Quantum Dots," <i>J. Am. Chem. Soc.</i> , 121:8122-8123 (1999).	
	155	Mucic et al., "Synthesis and Characterization of DNA with Ferrocenyl Groups Attached to their 5'-Termini: Electrochemical Characterization of a Redox-Active Nucleotide Monolayer," <i>Chem. Commun.</i> , pp. 555-557 (1996).	

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	156	Mucic et al., "DNA-Directed Synthesis of Binary Nanoparticle Network Materials," <i>J. Am. Chem. Soc.</i> , 120:12674-12675 (1998).	
	157	Murphy, C. J., et al., "Long-Range Photoinduced Electron Transfer Through a DNA Helix," <i>Science</i> , 262:1025-1029 (1993).	
	158	Orellana, G., et al., "Photoinduced Electron Transfer Quenching of Excited Ru(II) Polypyridyls Bound to DNA: The Role of the Nucleic Acid Double Helix," <i>Photochemistry and Photobiology</i> , 54(4):499-509 (1991).	
	159	Palecek, "From Polarography of DNA to Microanalysis with Nucleic Acid-Modified Electrodes," <i>Electroanalysis</i> , 8(1):7-14 (1996).	
	160	Parinov, S., "DNA Sequencing by Hybridization to Microchip octa- and Decanucleotides Extended by Stacked Pentanucleotides," <i>Nucleic Acids Research</i> , 24(15):2998-3004 (1996).	
	161	Paterson, "Electric Genes: Current Flow in DNA Could Lead to Faster Genetic Testing," <i>Scientific American</i> , 33 (May 1995).	
	162	Proudnikov, D. "Immobilization of DNA in Polyacrylamide Gel for the manufacture of DNA and DNA-Oligonucleotide Microchips," <i>Analytical Biochemistry</i> , 259:34-41 (1998).	
	163	Proudnikov, D. et al., "Chemical Methods of DNA and RNA Fluorescent Labeling," <i>Nucleic Acids Research</i> , 24(22):4535-4542 (1996).	
	164	Purugganan, M. D., et al., "Accelerated Electron Transfer Between Metal Complexes Mediated by DNA," <i>Science</i> , 241:1645-1649 (1988).	
	165	Reimers et al., "Toward Efficient Molecular Wires and Switches: the Brooker Ions," <i>Biosystems</i> , 35:107-111 (1995).	
	166	Rhodes, D. And A. Klug, "Helical Periodicity of DNA Determined by Enzyme Digestion," <i>Nature</i> , 286:573-578 (1980).	
	167	Risser, S. M., et al., "Electron Transfer in DNA: Predictions of Exponential Growth and Decay of Coupling with Donor-Acceptor Distance," <i>J. Am. Chem. Soc.</i> , 115(6):2508-2510 (1993).	
	168	Sato, Y., et al., "Unidirectional Electron Transfer at Self-Assembled Monolayers of 11-Ferrocenyl-1-undecanethiol on Gold," <i>Bull. Chem. Soc. Jpn.</i> , 66(4):1032-1037 (1993).	
	169	Satyanarayana, S., et al., "Neither Δ- nor Λ-Tris(phenanthroline)ruthenium(II) Binds to DNA by Classical Intercalation," <i>Biochemistry</i> , 31(39):9319-9324 (1992).	
	170	Schreiber, et al., "Bis(purine) Complexes of <i>trans</i> -a ₂ Pt ^{II} : Preparation and X-ray Structures of Bis(9-methyladenine) and Mixed 9-Methyladenine, 9-Methylguanine Complexes and Chemistry Relevant to Metal-Modified Nucleobase Triples and Quartets," <i>J. Am. Chem. Soc.</i> 118:4124-4132 (1996).	
	171	Schuhmann, W., et al., "Electron Transfer between Glucose Oxidase and Electrodes via Redox Mediators Bound with Flexible Chains to the Enzyme Surface," <i>J. Am. Chem. Soc.</i> , 113:1394-1397 (1991).	

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	172	Schumm, et al., "Iterative Divergent/Convergent Approach to Linear Conjugated Oligomers by Successive Doubling of the Molecular Length: A Rapid Route to a 128 Å-Long Potential Molecular Wire," <i>Angew. Chem. Int. Ed. Engl.</i> , 33(11):1360-1363 (1994).	
	173	Sigal et al., "A Self-Assembled Monolayer for the Binding and Study of Histidine-Tagged Proteins by Surface Plasmon Resonance," <i>Anal. Chem.</i> , 68(3):490-497 (1996).	
	174	Southern, et al., "Arrays of complementary oligonucleotides for analysing the hybridisation behaviour of nucleic acids," <i>Nucleic Acids Research</i> , 22(8):1368-1373 (1994).	
	175	Storhoff et al., "One-Pot Colorimetric Differentiation of Polynucleotides with Single Base Imperfections Using Gold Nanoparticles Probes," <i>J. Am. Chem. Soc.</i> , 120:1959-1964 (1998).	
	176	Strobel, S. A., et al., "Site-Specific Cleavage of a Yeast Chromosome by Oligonucleotide-Directed Triple-Helix Formation," <i>Science</i> , 249:73-75 (1990).	
	177	Su, et al., "Interfacial Nucleic Acid Hybridization Studied by Random Primer ³² P Labelling and Liquid-Phase Acoustic Network Analysis," <i>Analytical Chemistry</i> , 66(6):769-777 (1994).	
	178	Telser, J., et al., "DNA Oligomers and Duplexes Containing a Covalently Attached Derivative of Tris(2,2'-bipyridine)ruthenium(II): Synthesis and Characterization by Thermodynamic and Optical Spectroscopic Measurements," <i>J. Am. Chem. Soc.</i> , 111:7221-7226 (1989).	
	179	Telser, J., et al., "DNA Duplexes Covalently Labeled at Two Sites: Synthesis and Characterization by Steady-State and Time-Resolved Optical Spectroscopies," <i>J. Am. Chem. Soc.</i> , 111:7226-7232 (1989).	
	180	Timofeev, E. et al., "Regioselective Immobilization of Short Oligonucleotides to Acrylic Copolymer Gel," <i>Nucleic Acids Research</i> , 24(16): 3142-3148 (1996).	
	181	Timofeev, E. et al., "Methidium Intercalator Inserted into Synthetic Oligonucleotides," <i>Tetrahedron Letters</i> , 37(47):8467-8470 (1996).	
	182	Tour, "Conjugated Macromolecules of Precise Length and Constitution. Organic Synthesis for the Construction of Nanoarchitectures," <i>Chem. Rev.</i> , 96:537-553 (1996).	
	183	Tour, et al., "Self-Assembled Monolayers and Multilayers of Conjugated Thiols, α - ω -Dithiols, and Thioacetyl-Containing Adsorbates. Understanding Attachments between Potential Molecular Wires and Gold Surfaces," <i>J. Am. Chem. Soc.</i> , 117:9529-9534 (1995).	
	184	Tullius, T.D. and B.A. Dombroski, "Iron(II) EDTA Used to Measure the Helical Twist Along Any DNA Molecule," <i>Science</i> , 230:679-681 (1985).	
	185	Turro, N. J., et al., "Molecular Recognition and Chemistry in Restricted Reaction Spaces. Photophysics and Photoinduced Electron Transfer on the Surfaces of Micelles, Dendrimers, and DNA," <i>Acc. Chem. Res.</i> , 24:332-340 (1991).	

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**INFORMATION DISCLOSURE
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Sheet 11 of 13

Complete if Known	
Application Number	09/841,809
Filing Date	April 24, 2001
First Named Inventor	Meade, T.
Group Art Unit	Not Yet Assigned
Examiner Name	Not Yet Assigned
Attorney Docket Number	A-64789-3/RFT/RMS/RMK

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	186	Turro, N., et al. "Photoelectron Transfer Between Molecules Adsorbed in Restricted Spaces," <i>Photochem. Convers. Storage Sol. Energy, Proc. Int. Conf.</i> , 8th, pp 121-139 (1990).	
	187	Uosake, K., et al., "A Self-Assembled Monolayer of Ferrocenylalkane Thiols on Gold as an Electron Mediator for the Reduction of Fe(III)-EDTA in Solution," <i>Electrochimica Acta.</i> , 36(11/12):1799-1801 (1991).	
	188	Van Ness, J., et al., "A Versatile Solid Support System for Oligodeoxynucleotide Probe-Based Hybridization Assays," <i>Nucleic Acids Research</i> , 19(12):3345-3350 (1991).	
	189	Velev et al., "In Situ Assembly of Colloidal Particles into Miniaturized Biosensors," <i>The ACS Journal of Surfaces and Colloids, Langmuir</i> , 15(11):3693-3698 (1999).	
	190	Watson et al., "Hybrid Nanoparticles with Block Copolymer Shell Structures," <i>J. Am. Chem. Soc.</i> , 121:462-463 (1999).	
	191	Weber, et al., "Voltammetry of Redox-Active Groups Irreversibly Adsorbed onto Electrodes. Treatment Using the Marcus Relation between Rate and Overpotential," <i>Anal. Chem.</i> , 66:3164-3172 (1994).	
	192	Williams, et al., "Studies of oligonucleotide interactions by hybridisation to arrays: the influence of dangling ends on duplex yield," <i>Nucleic Acids Research</i> , 22(8):1365-1367 (1994).	
	193	Winkler, J. R., et al., "Electron Transfer in Ruthenium-Modified Proteins," <i>Chem. Rev.</i> , 92:369-379 (1992).	
	194	Xu, et al., "Immobilization and Hybridization of DNA on an Aluminum(III) Alkanebisphosphonate Thin Film with Electrogenerated Chemiluminescent Detection," <i>J. Am. Chem. Soc.</i> , 117:2627-2631 (1995).	
	195	Xu, et al., "Immobilization of DNA on an Aluminum(III) alkaneobisphosphonate Thin Film with Electrogenerated Chemiluminescent Detection," <i>J. Am. Chem. Soc.</i> , 116:8386-8387 (1994).	
	196	Yang, et al., "Growth and Characterization of Metal(II) Alkaneobisphosphonate Multilayer Thin Films on Gold Surfaces," <i>J. Am. Chem. Soc.</i> , 115:11855-11862 (1993).	
	197	Yershov, G. et al., "DNA Analysis and Diagnostics on Oligonucleotide Microchips," <i>Proc. Natl. Acad. Sci. USA</i> , 93:4913-4918 (1996).	
	198	Zhou, et al., "Fluorescent Chemosensors Based on Energy Migration in Conjugated Polymers: The Molecular Wire Approach to Increased Sensitivity," <i>J. Am. Chem. Soc.</i> , 117:12593-12602 (1995).	

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<i>Complete if Known</i>	
Application Number	09/841,809
Filing Date	April 24, 2001
First Named Inventor	Meade, T.
Group Art Unit	Not Yet Assigned
Examiner Name	Not Yet Assigned
Attorney Docket Number	A-64789-3/RFT/RMS/RMK

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

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<i>Complete if Known</i>	
Application Number	09/841,809
Filing Date	April 24, 2001
First Named Inventor	Meade, T.
Group Art Unit	Not Yet Assigned
Examiner Name	Not Yet Assigned
Attorney Docket Number	A-64789-3/RFT/RMS/RMK

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code ² (if known)			
	208	4,945,045		Forrest et al.	07/1990	
	209	5,089,112		Skotheim et al.	02/1992	
	210	5,180,968		Bruckensteine et al.	01/1993	
	211	5,356,786		Heller et al.	10/1994	
	212	5,391,272		O'Daly et al.	02/1995	
	213	5,436,161		Bergstrom et al.	07/1995	
	214	5,242,828		Bergstrom et al.	09/1993	
	215	5,824,473		Meade et al.	10/1998	
	216	6,060,023		Maracas	05/2000	
	217	6,060,327		Keen	05/2000	
	218	6,071,699		Meade et al.	06/2000	
	219	6,087,100		Meade et al.	07/2000	
	220	6,096,273		Kayyem et al.	08/2000	
	221	6,107,080		Lennox	08/2000	
	222	6,177,250		Meade et al.	01/2001	
	223	6,180,352		Meade et al.	01/2001	
	224	6,200,761		Meade et al.	03/2001	
	225	6,238,870		Meade et al.	05/2001	

FOREIGN PATENT DOCUMENTS

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		Office ³	Number ⁴	Kind Code ² (if known)				
	226	WO	97/41425			11/1997		
	227	WO	86/05815	A1	Genetics International Inc.	3/1985		
	228	WO	98/57159	A1	Clinical Micro Systems	6/1997		
	229	WO	99/37819	A2	Clinical Micro Systems	1/1998		

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